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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,429	06/18/2001	David Chazan	01-052410US	9951

22798 7590 06/02/2005

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EXAMINER

GORDON, BRIAN R

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,429

Applicant(s)

CHAZAN ET AL.

Examiner

Brian R. Gordon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13,28-31 and 33-77 is/are pending in the application.
- 4a) Of the above claim(s) 46-77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13,28-31 and 33-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Interpretation

As specified in applicant's specification defines a venting element is a cavity, channel or any other equivalent. As such any cavity or channel open to the environment and associated with another element may be considered a venting element and would inherently function as insulator and be capable of producing a stagnant vapor region due to its exposure to air (water vapor). In view such the rejection below has been formed.

As to claim 29, applicant employs alternative language which allows for the option a number of elements to present in the device. Specifically, the claim states "wherein the at least one venting element comprises at least one venting channel network, a plurality of venting cavities, **or** both." As such, prior art which only discloses a plurality of cavities would meet the limitations of the claim. Since applicant uses optional language the dependent claims must first positively define which elements are being included in the device before being considered further limiting. For example, if the device only has venting channel network, the dependent claims directed to the venting cavities would not be considered further limiting.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by Sethi et al.

US 4,891,120.

Sethi et al. disclose a chromatographic separation device comprises a body 2 of a semiconductor material which body has a longitudinal channel 1 (venting element) formed in a surface thereof, the channel 1 being capable of containing a predetermined volume of a liquid or solid material for a chromatography test or separation procedure, the channel carrying at least one electrode 6 positioned intermediate the channel ends. The claim does not require or specify the venting element as being associated with any particular structure to be vented.

As seen in the figures the channel is etched partially through the body. As recited above the open channel may possibly contain air (water vapor) when liquid does not fill the channel thereby forming a stagnant vapor region.

3. Claims 13, 28-31, and 33-45 rejected under 35 U.S.C. 102(e) as being anticipated by Dubrow et al. US 6,756,019.

Dubrow et al. disclose microfluidic devices that comprise a body structure comprising at least a first microscale channel network disposed therein. The body structure has a plurality of ports disposed in the body structure, where each port is in fluid communication with one or more channels in the first channel network. The devices also include a cover layer comprising a plurality of apertures disposed through the cover

layer. The cover layer is mated with the body structure whereby each of the apertures is aligned with a separate one of the plurality of ports.

As to claim 13, the apertures 106 may be considered venting elements which are capable of having air (water vapor) therein. The cavities are of the same format/structure as those disclosed by applicant as such the cavities are inherently capable of providing insulation and reduction of coupling as claimed.

As to claim 29, the microscale channel network is equivalent to applicants microchannel network and the plurality of apertures are equivalent to applicant's plurality of venting cavities.

As to the particular depth of the cavities, Dubrow further states the terms "microscale," "microfabricated" or "microfluidic" generally refer to one or more fluid passages, chambers or conduits which have at least one internal cross-sectional dimension, e.g., depth, width, length, diameter, etc., that is less than 500 μm , and typically between about 0.1 μm and about 500 μm . In the devices of the present invention, the microscale channels or chambers preferably have at least one cross-sectional dimension between about 0.1 μm and 200 μm , more preferably between about 0.1 μm and 100 μm , and often between about 0.1 μm and 20 μm .

Claims 30-31 are directed to the venting cavities, however the cavities are not positively claimed as elements of the invention. The cavities are optional (claim 29) not required hence any limitation directed thereto is optional.

Claims 33-45, are directed to the venting channel network, however the venting channel network is not positively claimed therefore the claims are not considered further

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limiting. The venting channel network is optional (claim 29) not required hence any limitation directed thereto is optional.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Manz, Andreas et al.; Gilbert; John Richard et al.; Dubrow; Robert S. et al.; Singh; Sharat et al.; McCaskill; John Simpson et al.; Manz; Andreas et al.; Parce; John Wallace et al.; and Parce; John Wallace et al. disclose microfluidic devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to be 'E. R. M.', written in a cursive style.

brg